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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/302,471	04/30/1999	TATSUHIKO SHIBUYA	774-98129	6935

7590

04/15/2003

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EXAMINER
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BRUNSMAN, DAVID M

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 26

Application Number: 09/302,471  
Filing Date: April 30, 1999  
Appellant(s): SHIBUYA ET AL.

\_\_\_\_\_  
Matthew Jacob  
For Appellant

EXAMINER'S ANSWER

MAILED  
APR 15 2003  
GROUP 1700

This is in response to the appeal brief filed 07 October 2002.

Art Unit: 1755

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 7-9 and 12 stand or fall together, claim 10 does not stand or fall with the remaining claims, claim 11 does not stand or fall with the remaining claims and claims 13-15 stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 1755

**(9) *Prior Art of Record***

Takei et al, English translation of Japanese Patent Kokai 9-208237, patented 12 August 1997, as submitted by applicant in the instant application 08 January 2001.

Tomikawa et al, English translation of Japanese Patent Kokai 6-83063, patented 25 March 1994, as submitted by applicant in the instant application 08 January 2001.

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7 and 10-15 stand finally rejected under 35 U.S.C. 102(b) as being anticipated by Takei et al.

The reference teaches a method of forming a coating composition and coating a substrate wherein 100g TMOS, 500g of methanol, 360g of DMF and, 266g of THF alcohol are admixed (yielding a concentration on the basis of SiO<sub>2</sub> of about 3% by weight). To this composition are added  $1.2 \times 10^{-4}$  moles ammonium compound base per 100g silane compound and 390g water. The composition is deposited on a substrate and dried at 50-180<sup>0</sup>C. The material is baked at 1400-1500<sup>0</sup>C. During processing the composition passes through 5-25% by weight silane condensate in terms of SiO<sub>2</sub> during drying wherein the alcohol solvent is volatilized and replace with DMF. During baking the material passes through 350-800 C.

Art Unit: 1755

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 9 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Takei et al as applied above, and further in view of Tomikawa et al.

The difference between Takei et al and the instant claims is the base catalyst employed. Paragraph 22 of Tomikawa et al teach that ammonium compounds, ammonia and other amines are all known in the instant art as basic amine catalysts for similar compositions. It would have been obvious to one of ordinary skill in the art to employ an ammonia catalyst because Tomikawa et al teaches it is equivalent to the bases of Takei et al.

**(11) Response to Argument**

Appellant enumerates six points of argument.

1) Takei et al teaches coating. Paragraph [0002] of the translation teaches formation of overlying batches of sol. This discloses the coating of a dried batch with a fresh sol. In example 1, the reference teaches the step of pouring the sol into a Teflon<sup>®</sup>-coated mold an operation indistinguishable from a simple coating step. This finding that Takei et al does teach a coating step also supports the rejection of claims 13-15. The only argument for the patentability of claims 13-15 over Takei et al advanced by appellant being that they are drawn to a coating.

2) Takei et al employ a *partial* polycondensation product. The term “partial” indicating TMOS “monomer” is still present. The instant claims are not closed to the presence of some condensate. Further, there is no evidence of record that a partial polycondensation product of

Art Unit: 1755

TMOS is materially different than TMOS *per se* and is anything more than the particular arrangement of TMOS molecules in solution.

3) Claim 11 recites a particular range of moles of water in the coating solution. Claim 11 does not recite the amount of water to be added, only that 2-20 moles are present. Takei et al teach less than 1% water may be in the starting mixture, similar to appellants who do not recite any water in the starting mixture (step (a)). Takei et al do add water and base after the alcoholic solution has been formed, as do appellants in step (b). The amount of water in the prepared coating solution (the product of step (c)) passes through the recited amount upon drying, as set forth in the final rejection. Thus claim 11 is also unpatentable over Takei et al.

4) The prior art does teach replacement of the alcohol solvent with an aprotic solvent. The methyl alcohol of an alcoholic solvent is volatilized first during drying and is replaced with a solvent of DMF alone. While appellant's *specification* may teach later addition of the aprotic polar solvent than the prior art examples, which add it to the initial mixture, the appealed claims do not require such later addition.

5) As established earlier in the prosecution, the instant claims 7-12 require an alcohol solvent in the initial mixture. The prior art teaches an alcoholic solvent comprised in largest proportion of methanol. While it contains other compounds, the alcohol solvent is; nonetheless, present.

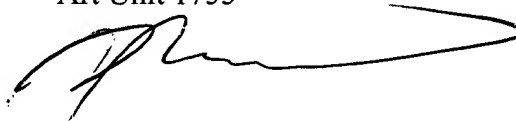
6) As 2/3 of a mole of silane compound calculated as  $\text{SiO}_2$  is present and page 5, line 18, of the reference clearly states the addition of  $1.2 \times 10^{-4}$  moles of "a basic compound" (as identified by the examiner) there is clear teaching of the amount of the basic compound and it falls squarely within the amount recited in claim 10.

Art Unit: 1755

For the above reasons, it is believed that the rejections should be sustained. The Information Disclosure Statement filed 05 November 2002 has been considered. The documents cited therein are found to be most relevant to claims 13-15, but no more relevant than that on which the claims are finally rejected at this stage of the prosecution. A completed copy of the listing of prior is included herewith.

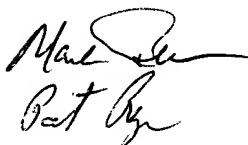
Respectfully submitted,

David M Brunsman  
Primary Examiner  
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DMB  
April 14, 2003

Conferee



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